



EL7041 | Stepper motor terminal 48 V DC, 5 A, with incremental encoder

The EL7041 EtherCAT Terminal is intended for stepper motors with medium performance range. The PWM output stages cover a wide range of voltages and currents. Together with two inputs for limit switches, they are located in the EtherCAT Terminal. The EL7041 can be adjusted to the motor and the application by changing just a few parameters. 64-fold micro-stepping ensures particularly quiet and precise motor operation. Together with a stepper motor, the EL7041 represents an inexpensive small servo axis.

Technical data	EL7041 ES7041	EL7041-1000
Technology	compact drive technology	
Load type	2-phase stepper motor (uni-/bipolar)	
Number of channels	1	
Number of outputs	1 x stepper motor	
Number of inputs	2 x end position, 1 x encoder	
Connection method	direct motor connection + feedback	
Supply voltage electronics	24 V DC (via power contacts)	
Supply voltage power	8...48 V DC (external)	
Output current	max. 5.0 A	
Step frequency	configurable up to 8000 full steps/s	
Step pattern	64-fold micro stepping	
Current controller frequency	approx. 30 kHz	
Resolution	approx. 5000 positions in typ. applications (per revolution)	
Encoder input signal	5...24 V DC, typ. 5 mA, single-ended	
Encoder connection	A, B, C, gate/latch	
Input frequency	max. 400,000 increments/s (with 4-fold evaluation)	
Current consumption power contacts	typ. 50 mA	
Current consumption E-bus	typ. 140 mA	
Distributed clocks	yes	
Special features	travel distance control, encoder input	for resonance-critical applications, encoder input
Electrical isolation	500 V (E-bus/field potential)	
Weight	approx. 90 g	
Operating/storage temperature	0...+55 °C/-25...+85 °C	
Relative humidity	95 %, no condensation	
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27	
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4	
Protect. class/installation pos.	IP 20/see documentation	
Pluggable wiring	for all ESxxxx terminals	
Approvals/markings	CE, UL	

Accessories	
Cables, gears and couplings	accessories for AS2000 stepper motors
ZK4000-6200-2xxx	motor cable for AS1000, assembled at both ends, 4 x 0.5 mm ² , 4 million bending cycles, bending radius = 55 mm (10 x OD)
ZK4000-6700-2xxx	motor cable for AS1000, assembled at both ends, (4 x 0.5 mm ²), shielded, 4 million bending cycles, bending radius = 55 mm (10 x OD)
ZK4000-5100-2xxx	AS2000 encoder cable, drag chain suitable, (5 x 0.25 mm ²), shielded, for EL703x/EL704x/KL253x/KL254x
Cables and gears	prefabricated connecting cables in IP 20 and IP 67 protection for AS10xx stepper motors

Related products	
EL7031	stepper motor EtherCAT Terminal, 24 V DC, $I_{max} = 1.5$ A
EL7037	stepper motor EtherCAT Terminal, with vector control, 24 V DC, $I_{max} = 1.5$ A
EL7047	stepper motor EtherCAT Terminal, with vector control, 48 V DC, $I_{max} = 5.0$ A
EP7041-0002	stepper motor EtherCAT Box (industrial housing), $I_{MAX} = 5$ A, 48 V, IP 67
KL2531	stepper motor Bus Terminal, $I_{max} = 1.5$ A, 24 V, IP 20
KL2541	stepper motor Bus Terminal, $I_{max} = 5$ A, 48 V, IP 20